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ABSTRACT

The purpose of this study was to determine whether three procedures-- the cloze, maze, and intact cloze--were reliable and valid measures of readability. One hundred and eighty one sophomores were involved in the study. A passage, An Industrial Giant: Standard Oil Company, from the U.S. history textbook "The People Make a Nation" (Sandler, Rozwenc, and Martin) was selected. The students were asked to read the passage, to take a readability test using the cloze, maze, or intact cloze and to take a comprehension test. Results include the following. First, the cloze, maze, and intact cloze were found to be reliable and valid measures of readability. However, the cloze appears to be the most effective and efficient when compared to the maze and intact cloze. Second, results of past research indicate current methods of assessment (i.e., formulas and standardized tests) to be relatively accurate and acceptable. Recent research suggests the importance of other factors not included in current readability measures such as the concept load, horizontal readability of the text and the linguisitc and cognitive development of the reader. (Author/RM)

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CUFA PRESENTATION

National Council for the Social Studies
New Orleans, Louisiana

November 28, 1980

The Cloze and Maze as Measures of Comprehension of a Social Studies Text: A Preliminary Report

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University of New Mexico

SO 013 606

ABSTRACT

The purpose of this study was to determine whether three procedures, the cloze, maze and intact cloze, were reliable and valid measures of readability. Particular attention focused on the suitability of the procedures for social studies, especially in evaluating the readability score in terms of comprehension and retention tasks expected of students in instruction.

The cloze consists of a passage from the material to be read in which every nth word (usually every fifth) has been deleted and replaced by a blank. The reader must fill the blank with the exact word deleted. The maze and intact cloze also depend on a passage with systematic deletions to determine readability. However, in the maze, the reader selects a response from three alternatives. In the intact cloze procedure, the intact passage (without deletions)is read before the same passage with deletions is administered (the regular cloze). The percentage of correct replacements constitutes a comprehension score which is used to categorize the passage as suitable for independent or instructional reading but unsuitable if on a frustrational level. Copies of the three procedures are included in the appendix.

Scores of 181 high school sophomores on one of three readability procedures were correlated with their ability to answer questions on a reading comprehension test and their previous scores on a standardized reading test (the Comprehensive Test of Basic Skills). Correlations were used to test for the reliability and validity of each procedure and to determine what differences, if any, existed among the three.

The nine research hypotheses in this study were primarily concerned with the reliability and validity of the three readability procedures (the cloze, maze and intact cloze) and the reading comprehension test. The construction of the readability tests and the reading comprehension test followed recommended guidelines. Evidence to substantiate the hypotheses consisted of correlations among the various measures and these appeared conclusive, with nearly all correlations statistically significant at the .001 level.

The Cloze and Maze as Measures
of Comprehension of a Social Studies Text:
A Preliminary Report

The Problem:

The purpose of this study was to investigate the reliability and validity of three procedures, the cloze, maze and intact cloze, as measures of readability for social studies textbooks.

Readability is generally an estimate or prediction of reading difficulty. Five methods provide the means to assess readability: 1) subjective assessment; 2) objective question and answer techniques; 3) formulas; 4) tables and charts; and 5) sentence completion.

In the cloze (a form of sentence completion), systematic deletions occur throughout the passage. The maze replaces the blanks on a cloze with a multiple choice format. In the intact cloze, the undeleted passage is read first and then a conventional cloze test on the same passage is administered.

Three questions were examined: 1) Do the cloze, maze and intact cloze vary significantly as readability procedures?

2) How well do scores from the cloze, maze and intact cloze compare with scores from other measures of reading ability?

3) Does a relationship exist between readability scores and the comprehension of content, specifically social studies? In particular, do these readability scores relate to comprehension tasks operationalized as literal, inferential and evaluative questions in a multiple choice test?

Rationale for the Study

The rationale and procedures for the study were developed from an extensive review of literature. However, for this presentation, a condensation was necessary.

1. There is a continued emphasis on reading in formal education. Though reading is not the only way to learn, poor readers appear to be equally unsuccessful as learners. Teaching students to read is considered a fundamental responsibility of the school.
2. Instruction in reading is different from reading for content. First, on the elementary level, a substantial commitment to teach reading exists. This commitment is less defined on the secondary level. Second, reading is a separate subject with instructional materials designed and sequenced for developing readers in the K-6 curriculum. However, content teachers are expected to assume increasing responsibility for improving reading on the secondary level.
3. Textbooks persist as determinants of the scope and sequence of content on the secondary level (Janz and Smith, 1972). The purpose of the single textbook is to provide students with "the unifying effect" of "common reading experiences" (Thomas and Robinson, 1977, p. 233).
4. The importance of reading to social studies remains undiminished. Studies have consistently reported a relationship between reading ability and achievement in social studies (Chapin and Gross, 1973; Huus, 1963). Deficiencies in other related skill areas such as the interpretation of graphs, charts and maps also appear related to reading ability.
5. Indications of difficulties attributed to reading problems in social studies include: a) the low scores on standardized reading tests in general; b) the unpopularity of social studies courses; and c) the format and style of instructional materials. However, only a limited

and rather dated number of studies have been conducted on reading in the social studies. Four reviews of research were found: Estes (1972), Herber (1972), Herman (1969), and Lunstrum (1976). Initially, research was directed to identifying reading skills unique to social studies achievement. Recent studies have focused on readability procedures as applied to social studies textbooks.

6. Research has continued to confirm the existence of extensive differences in the reading abilities of students and the reading levels of textual materials (Janz and Smith, 1972; Johnson and Vardian, 1973; Schneider, Crook, Tolbert, O'Neil & Toliver, 1978). Research further indicates that the range in readability can be greater within rather than between texts.
7. The cloze and maze represent alternatives to traditional measures of readability. Rather than the grade levels estimates of formulas, scores on the cloze and maze can be used to categorize the reading material as either independent, instructional or frustrational. The score is obtained from an interaction between the reader and a sample of the text. Research studies on the cloze have been extensive but little exists on the maze.

Procedures

The procedures followed in this study included: 1) the selection of subjects; 2) the selection of a textbook passage; 3) the construction of a comprehension test; 4) the construction of three alternative readability procedures; 5) the collection of data; 6) the analysis of data; and 7) conclusions and implications.

1. There were 181 sophomores involved in the study. An effort was made to equalize representation in the sample by sex and academic track (college prep or general education).

2. A passage from a U.S. History textbook was selected for the study. This subject area was chosen because: a) a course in U.S. History is a requirement in most states for graduation; b) there has been a tradition of dependence on a single textbook as the basic instructional resource for all students in this course; and c) the unpopularity of this course is often attributed to the frequency and length of reading assignments.

   The passage selected was "An Industrial Giant: Standard Oil Company" from The People Make A Nation (Sandler, Rozwenc, and Martin) which had a high tenth grade readability level as measured by the Fry Graph. This was acceptable because sophomores were the subjects in this study. A copy of the passage is located in Appendix A.

3. Three readability tests were developed in the same passage. Subjects were assigned to either the cloze, maze or intact cloze (see Appendix B).

4. The development of a comprehension test was particularly difficult. Evaluation of questions by a panel of social studies and reading educators and a test for passage dependency reduced the comprehension test from 36 to 10 acceptable items. The evaluative section was eliminated (see Appendix C).

5. The data collected included the sex and academic background of the subject; a readability test and a comprehension test score; the length of time required to complete the readability and comprehension test; a teacher's rating of reading ability and scores from the Comprehensive Test of Basic Skills (CTBS) in reading vocabulary, reading comprehension, total reading and total battery.

6. The analysis of data involved a cross validation between one and more of the variables described above.

Analysis of Data

1. Do the cloze, maze and intact cloze vary significantly as readability procedures?

The first indication of differences among the cloze, maze and intact cloze were the mean scores. Mean scores were highest on the maze (75.1) and lowest on the cloze (37.5). The mean score of the intact cloze was slightly higher than the cloze (42.1). This order was predicted from previous research on each procedure.

Second, slight variations were also found in the reliability coefficients: .91 for the maze, .87 for the intact cloze, and .86 for the cloze.

Third, correlations with other indicators of reading ability (i.e., standardized test scores, comprehension test scores, academic track and teacher ratings) varied among the procedures. This will be discussed in detail in the following questions and the section on implications.

2. How well do scores from the cloze, maze and intact cloze compare with scores from other measures of reading ability?

Correlations between readability scores and the scores of the Comprehensive Test of Basic Skills (CTBS) provided a means to establish the validity of the cloze, maze and intact cloze as measures of reading difficulty. Four CTBS scores were used: reading vocabulary, reading comprehension, total reading and total battery.

Correlations for all three readability procedures were significant at the .001 level with the cloze highest, followed by the intact cloze and then the maze. Of the CTBS scores, correlations were lowest for the comprehension subtest regardless of the readability procedure compared.

Readability scores were then correlated with academic track (college prep or general studies) of the student's U.S. History class. As predicted,

a large percentage of readability scores in the frustrational category were from students in the general studies sections of U.S. History. A majority of students in the college prep sections scored in the instructional category with scores in the independent category second.

A rating of reading ability by U.S. History teachers provided another source of validating the readability scores of each procedure. All correlations were significant at the .001 level with the cloze highest, the maze second and the intact cloze, unexpectedly third.

These significant correlations between readability scores and other measures of reading ability provided consistent evidence of construct and concurrent validity.

3. Does a relationship exist between readability scores and the comprehension of content, specifically social studies? In particular, do these readability scores relate to comprehension tests operationalized as literal, inferential and evaluative questions in a multiple choice format?

Initially, the comprehension test was designed to relate readability scores to learning and instruction in social studies. Literal, inferential and evaluative questions represented comprehension and retention tasks often required of readers as part of a reading assignment. However, the construction of sufficient items for each type of question on the test was not possible (see procedures). As a result, internal consistency coefficients were low: .47 for the ten items; .31 for the four literal items; and .40 for the four inferential items. Two evaluative questions were left in the comprehensive test but were not included as part of this study.

Student performance on a readability procedure and the comprehension test were compared to determine if scores on both were related. Although correlations between the readability procedures and the total comprehension

test were almost identical (.65 for the cloze, .66 for the maze, and .65 for the intact cloze), differences among the three did exist for the literal and inferential subtests. The cloze and intact cloze were highly correlated with scores on the literal questions (.69 and .62 respectively). This was in contrast to .46 on the maze. However, the maze was highest in responses to inferential items (.64). The cloze was second (.48) and the intact cloze third (.46).

The limited number of items restricted the usefulness of the comprehension test in the study. The construction of acceptable questions proved unexpectedly difficult, as did identifying each question as literal, inferential, or evaluative. All that could be concluded was that readability scores were correlated to scores on the comprehension test.

Conclusions and Implications

First, the cloze, maze and intact cloze were found to be reliable and valid measures of readability. However, the cloze appears to be the most effective and efficient when compared to the maze and intact cloze. Correlations with other measures of reading ability were generally higher for cloze scores. Convenience in construction of the cloze is particularly important since these procedures must be constructed, administered and corrected by the classroom teacher.

Second, results of past research indicate current methods of assessment (i.e., formulas and standardized tests) to be relatively accurate and acceptable. Recent research suggests the importance of other factors not included in current readability measures such as the concept load and horizontal readability of the text (Lunstrum, 1976) and the linguistic and cognitive development of the reader. Adequate readability levels may never be possible since differences in reading ability exist in every class and

variation in reading levels persist within as well as between texts.

Research on reading and social studies has centered on the readability of instructional materials. Future research should link reading directly to instruction and learning especially in the content areas. As Turner (1976) concluded the selection of textual materials should be based on "the goals of the social studies instructional program and what the teacher deems to be the best instructional approach" (p. 34).

Any intervention on the part of the teacher rather than any specific method of reading instruction seems effective on the secondary level. Herber (1978) and Robinson (1978) stated that the instructional or functional context in which reading is used is most important to comprehension. An assessment of readability should include the text, the reader and the purpose and nature of instruction.

APPENDIX C: The Comprehension Tests

Final 10 Comprehension Questions

1. Which of the following supports the author's statement that some businessmen became powerful during this period?

   a) Railroads wanted Rockefeller's business badly.
   (b) They controlled many different operations of an industry.
   c) They were called industrial giants.
   d) They were the first in their field.

3. Which of the following ideas was most important then and is still appropriate now for a citizen living in today's society?

   a) The business of America is business
   (b) The importance of oil
   c) The rich get richer, the poor get poorer
   d) Winning is the only thing that counts

4. The trusts were usually

   (a) Concerned with controlling a single product
   b) Concerned with producing goods for export
   c) Dependent on government contracts
   d) Limited to a particular part of the country

5. Which of the following probably came first?

   a) The Age of Big Business
   b) The Gilded Age
   (c) The Machine Age
   d) The Standard Oil Company

6. A logical conclusion from the passage is that during the Age of Big Business

   (a) Control of American industry was in the hands of a few
   b) Government regulations restricted business growth
   c) No industry was controlled by one individual
   d) Small businesses were encouraged

---

*Circled letter indicates correct response.

7. Which of the following topics discussed in the passage is also the subject of this quotation: "The American Beauty rose can be produced in the splendor and fragrance which bring cheer to its beholder only by sacrificing the early buds which grow up around it."

a) Improving technology
b) Increasing production
c) Protecting railroads
(d) Reducing competition

13. From the passage, what conclusion can be drawn about the author's attitude toward the big businessmen of the Gilded Age?

a) Each was a genius in organizing his business.
b) They improved the efficiency of their industries.
c) They improved the quality of American life.
(d) They often disregarded the rights and welfare of others.

19. Which of the following lists the order in which the events in the growth of the Standard Oil Company were discussed in the passage?

a) Control of pipelines, control of oil fields, control of refineries
(b) Control of refineries, control of pipelines, favors from the railroad
c) Favors from the railroad, growth of trusts, price cutting
d) Price cutting, control over the steel industry, growth of trusts

23. Standard Oil was able to ship its products cheaply because

a) The railroads got a discount on oil they needed
b) The railroads profited from the shipments of other industries
(c) The railroads wanted their business badly
d) The railroads were owned by Rockefeller

25. Which is the best example of a business today that John Rockefeller would support?

a) Auto industry
b) Cereal industry
(c) Telephone industry
d) Television industry

APPENDIX A: Selected Passage

AN INDUSTRIAL GIANT: STANDARD OIL COMPANY

The establishment of the machine as a permanent fixture in American life made possible the beginnings of large business in this nation. There were many factors which contributed to this. As one historian has said, "The invention of labor-saving machinery made large-scale production profitable, and the development of transportation and communication made the distribution practical. Gradually, smaller inventions, such as the typewriter, adding machine, and many other appliances contributed necessary factors to the Age of Big Business."

These developments in industry led to the creation not only of large businesses but also of business combinations in which wealthy owners of large concerns bought up or otherwise acquired other companies and formed huge corporations. Often these businessmen became so powerful that they controlled many different operations of one particular industry. Some cut prices and held back certain materials that rival companies needed to make their products and, in this way, drove many of their rivals right out of business. These huge business combinations, or trusts as they were called, became a great problem to the nation during the Gilded Age.

One of the wealthiest and most well-known of all the industrial giants of the Gilded Age was John D. Rockefeller, who created the Standard Oil Company. There were many reasons why Rockefeller rose to a position of great power. First of all, he had been in the right place at the right time. Oil was a new product which was to become an essential part of the Machine Age. By being one of the first in this field and by spending large sums of money to create large refineries, he was able to charge lower prices than his competitors, and soon he began driving them out of business. Those he did not drive out of business, he bought out. In a relatively short period of time he had almost complete control of the oil industry.

Some of the practices that Rockefeller and the Standard Oil Company used in driving their competitors out of business were highly questionable. Standard Oil gained control of almost all of the pipelines used to ship crude oil and then withheld use of these lines from its competitors.

Rockefeller made secret arrangements with the railroads for special favors. Although the railroads were supposed to charge every oil company the same price, or rate, to ship refined oil to market, Rockefeller's arrangement with the railroads provided that they would charge his company a lower rate. Since the railroads wanted Rockefeller's business badly, they agreed to the arrangement. The Standard Oil Company paid the going rate for shipping its oil, but then the railroads would return part of the payments. The money returned, which amounted to millions of dollars, was called a rebate. The use of the rebate allowed Standard Oil to charge less for its products than could its competitors. This was one of the main reasons Standard was able to drive rival companies out of business.

APPENDIX B: The Readability Tests

The Cloze (Form A) and Maze (Form B)
and the Intact Cloze (Form C) with
Directions

DO NOT BEGIN UNTIL
TOLD TO DO SO.

FORM A

NAME_____ TIME: FINISH____
BEGIN_____

S.S. Teacher's Name:_____ Circle: Male
Period:_____ Female

Dear Student:

Thank you for participating in this study. This study consists of two parts. The first part is a reading activity and the second is a comprehension test.

Please follow these directions carefully.

1) Print clearly your name, the name of your social studies teacher and the period in which you are enrolled for social studies. Circle either male or female.

2) You may take as long as you wish to finish each part of the study. When you begin, put down the time on the top of this page where it says "Begin." When you finish, put down the time in the blank that says "Finish."

3) Then turn the completed activity in to the person in charge who will then give you Part 2.

4) Are there any questions?

5) Now turn to the next page.

Directions for Reading Activity, Part I:

1) On the next page, is a reading activity consisting of a passage which has been copied from a U.S. History textbook. Every seventh word was left out of the paragraphs, and blank spaces were put where the words were taken out.

2) Your job will be to decide what word was left out of each space and to write that word in that space.

3) It will help you in taking the test if you remember these things:

   a) Write only one word in each blank. Print your response.

   b) Try to fill in every blank. Don't be afraid to guess.

   c) You may skip hard blanks and come back to them when you have finished.

   d) Spelling errors will not be marked wrong if we can tell what word you meant.

   e) Most of the blanks can be answered with ordinary words but a few will be

      numbers like. . . . . .3,427 or $12 or 1954
      contractions like . . . . .can't or weren't
      abbreviations like. . . . .Mrs. or U.S.A.
      parts of hyphenated
         words like . . . . . .self in the word self-made

   f) Are there any questions? No questions can be asked once you have begun.

   g) Remember to put the time when you begin and finish on the first page. Turn the completed activity in to the person in charge who will then give you Part 2.

The establishment of the machine as a permanent fixture in American life made possible the beginnings of large business in this nation. There were many factors which contributed 1)_____ this. As one historian has said, "2)_____ invention of labor-saving machinery made 3)_____ production profitable, and the development 4)_____ transportation and communication made the distribution 5)_____. Gradually, smaller inventions, such as the 6)_____, adding machine, and many other appliances 7)_____ necessary features to the Age of 8)_____Business."

These developments in industry led 9)_____ the creation not only of large 10)_____ but also of business combinations in 11)_____wealthy owners of large concerns bought 12)_____ or otherwise acquired other companies and 13)_____ huge corporations. Often these businessmen became 14)_____ powerful that they controlled many different 15)_____ of one particular industry. Some cut 16)_____ and held back certain materials that 17)_____ companies needed to make their products 18)_____, in this way, drove many of 19)_____ rivals right out of business. These 20)_____ business combinations, or trusts as they 21)_____ called, became a great problem to 22) _____ nation during the Gilded Age.

One 23)_____ the wealthiest and most well-known 24)_____ all the industrial giants of the 25)_____ Age was John D. Rockefeller, who created the 26)_____ Oil Company. There were many reasons 27)_____ Rockefeller rose to a position of 28)_____ power. First of all, he had 29)_____ in the right place at the 30)_____ time. Oil was a new product 31)_____ was to become an essential part 32)_____ the Machine Age. By being one 33)_____ the first in this field and 34)_____ spending large sums of money to 35)_____ large refineries, he was able to 36)_____ lower prices than his competitors, and 37) _____ he began driving them out of 38) _____. Those he did not drive out 39)_____ business, he bought out. In a 40)_____ short period of time he had 41) _____ complete control of the oil industry.

42)_____ of the practices that Rockefeller and 43)_____ Standard Oil Company used in driving 44)_____ competitors out of business were highly 45)_____. Standard Oil gained control of almost 46)_____ of the pipelines used to ship 47)_____ oil and then withheld use of 48)_____ lines from its competitors. Rockefeller made 49)_____ arrangements with the railroads for special 50)_____. Although the railroads were supposed to 51)_____

every oil company the same price, 52)_____ rate, to ship refined oil to 53)_____, Rockefeller's arrangement with the railroads provided 54)_____ they would charge his company a 55)_____ rate. Since the railroads wanted Rockefeller's 56)_____ badly, they agreed to the arrangement. 57)_____ Standard Oil Company paid the going 58)_____ for shipping its oil, but then 59)_____ railroads would return part of the 60)_____. The money returned, which amounted to 61)_____ of dollars, was called a rebate. 62)_____ use of the rebate allowed Standard 63)_____ to charge less for its products 64)_____ could its competitors. This was one of the main reasons Standard was able to drive rival companies out of business.

DO NOT BEGIN UNTIL
TOLD TO DO SO

FORM B

NAME:_____ TIME: FINISH____
BEGIN_____

CIRCLE: Male
Female

S.S. Teacher's Name:_____
Period:_____

Dear Student:

Thank you for participating in this study. This study consists of two parts. The first part is a reading activity and the second is a comprehension test.

Please follow these directions carefully.

1) Print clearly your name, the name of your social studies teacher and the period in which you are enrolled for social studies. Circle either male or female.

2) You may take as long as you wish to finish each part of the study. When you begin, put down the time on the top of this page where it says "Begin." When you finish, put down the time in the blank where it says "Finish."

3) Then turn the completed activity in to the person in charge who will then give you Part 2.

4) Are there any questions?

5) Now turn to the next page.

Directions for Reading Activity, Part I:

1) On the next page is a reading activity consisting of a passage which has been copied from a U.S. History textbook. Every seventh word was left out of the paragraphs and three word choices were put where the words were taken out.

2) Your job will be to decide what word was left out of each space from one of the three words there. Circle the word selected.

3) Are there any questions? No questions can be asked once you have begun.

4) Remember to put the time when you begin and finish on the first page. Turn the completed activity in to the person in charge who will then give you Part 2.

The establishment of the machine as a permanent fixture in American life made possible the beginnings of large business in this nation. There were many factors which contributed 1) a. in b. to c. at this. As one historian has said, "2) a. the b. A c. A invention of labor-saving machinery made 3) a. increasing b. current c. large-scale production profitable, and the development 4) a. on b. with c. of transportation and communication made the distribution 5) a. on b. practical c. earlier. Gradually, smaller inventions, such as the 6) a. typewriter b. automobile c. calculator, adding machine, and many other appliances 7) a. contributed b. required c. devoted necessary features to the Age of 8) a. electrical b. Big c. costly Business."

These developments in industry led 9) a. through b. to c. under the creation not only of large 10) a. businesses b. products c. motors but also of

a. which
business combinations in 11) b. who wealthy owners of
c. whose

a. though
large concerns bought 12) b. already or otherwise acquired
c. up

a. formed
other companies and 13) b. conducted huge corporations.
c. grew

a. so
Often these businessmen became 14) b. too powerful
c. successfully

a. sources
that they controlled many different 15) b. operations of
c. partnerships

a. power
one particular industry. Some cut 16) b. hours and held
c. prices

a. average
back certain materials that 17) b. rival companies needed
c. present

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to make their products 18) b. because, in this way, drove
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many of 19) b. he rivals right out of business. These
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20) b. fast business combinations, or trusts as they
c. huge

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21) b. were called, became a great problem to 22) b. an nation
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during the Gilded Age.

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One 23) b. for the wealthiest and most well-known
c. big

a. like
24) b. within all the industrial giants of the 25) b. Gilded
c. of

a. Progress
c. American

Age was John D. Rockefeller, who created the

a. Standard
26) b. amazing Oil Company. There were many reasons
c. technological

a. why
27) b. consequently Rockefeller rose to a position of
c. so

a. great a. but
28) b. deep power. First of all, he had 29) b. been in the
c. first c. taken

a. necessary
right place at the 30) b. daily time. Oil was a new
c. right

a. than
product 31) b. whom was to become an essential part
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32) b. of the Machine Age. By being one 33) b. by
c. below c. over

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the first in this field and 34) b. at spending large
c. toward

a. work
sums of money to 35) b. set large refineries, he was able
c. create

a. charge
to 36) b. raise lower prices than his competitors, and
c. cut

a. really a. business
37) b. speedily he began driving them out of 38) b. work
c. soon c. employment

a. to
Those he did not drive out 39) b. of business, he bought
c. after

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out. In a 40) b. temporarily short period of time he had
c. promptly

a. subsequently
41) b. almost complete control of the oil industry.
c. soon

a. Few
42) b. Some of the practices that Rockefeller and
c. Enough

a. the a. our
43) b. an Standard Oil Company used in driving 44) b. their
c. a c. them

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competitors out of business were highly 45) b. educational
c. questionable

a. another
Standard Oil gained control of almost 46) b. more of the
c. all

a. crude
pipelines used to ship 47) b. better oil and then withheld
c. various

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use of 48) b. that lines from its competitors. Rockefeller
c. whose

a. simple
made 49) b. secret arrangements with the railroads for
c. popular

a. equipment
special 50) b. favors . Although the railroads were
c. procedures

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supposed to 51) b. turn every oil company the same
c. charge

a. or
price, 52) b. but rate, to ship refined oil to
c. since

a. market
53) b. process, Rockefeller's arrangement with the
c. travel

a. those
railroads provided 54) b. this they would charge his
c. that

a. lower
company a 55) b. high rate. Since the railroads wanted
c. fair

a. advice
Rockefeller's 56) b. help badly, they agreed to the
c. business

a. A
arrangement. 57) b. The Standard Oil Company paid the
c. An

a. experiment
going 58) b. principle for shipping its oil, but then
c. rate

a. An a. materials
59) b. A railroads would return part of the 60) b. expenses
c. The c. payments

a. sums
The money returned, which amounted to 61) b. millions
c. numbers

a. The
of dollars, was called a rebate. 62) b. A use of the rebate
c. An

a. Oil
allowed Standard 63) b. corporation to charge less for its
c. industry

a. so
products 64) b. as could its competitors. This was one
c. than

of the main reasons Standard was able to drive rival

companies out of business.

DO NOT BEGIN UNTIL
TOLD TO DO SO.

FORM C

NAME: _____ TIME: FINISH _____
BEGIN _____

Teacher's Name: _____ CIRCLE: Male
Period: _____ Female

Dear Student:

Thank you for participating in this study. This study consists of three parts. The first and second involve a reading activity and the third is a comprehension test.

Please follow these directions carefully.

1) Print clearly your name, the name of your social studies teacher and the period in which you are enrolled for social studies. Circle either male or female.

2) You may take as long as you wish to finish each part of the study. When you begin, put down the time on the top of this page where it says "Begin." When you finish, put down the time in the blank that says "Finish."

3) Then turn this part in to the person in charge who will then give you Part 2.

4) Are there any questions?

5) Now turn to the next page.

Directions for Reading Activity, Part I:

1) Put down the time when you begin.

2) Read the selection carefully.

3) Put down the time when you finish the selection.

4) Turn Part I in to the person in charge who will then give you Part 2.

AN INDUSTRIAL GIANT: Standard Oil Company

The establishment of the machine as a permanent fixture in American life made possible the beginnings of large business in this nation. There were many factors which contributed to this. As one historian has said, "The invention of labor-saving machinery made large-scale production profitable, and the development of transportation and communication made the distribution practical. Gradually, smaller inventions, such as the typewriter, adding machine, and many other appliances contributed necessary factors to the Age of Big Business."

These developments in industry led to the creation not only of large businesses but also of business combinations in which wealthy owners of large concerns bought up or otherwise acquired other companies and formed huge corporations. Often these businessmen became so powerful that they controlled many different operations of one particular industry. Some cut prices and held back certain materials that rival companies needed to make their products and, in this way, drove many of their rivals right out of business. These huge business combinations, or trusts as they were called, became a great problem to the nation during the Gilded Age.

One of the wealthiest and most well-known of all the industrial giants of the Gilded Age was John D. Rockefeller, who created the Standard Oil Company. There were many reasons why Rockefeller rose to a position of great power. First of all, he had been in the right place at the right time. Oil was a new product which was to become an essential part of the Machine Age. By being one of the first in this field and by spending large sums of money to create large refineries, he was able to charge lower prices than his competitors, and soon he began driving them out of business. Those he did not drive out of business, he bought out. In a relatively short period of time he had almost complete control of the oil industry.

Some of the practices that Rockefeller and the Standard Oil Company used in driving their competitors out of business were highly questionable. Standard Oil gained control of almost all of the pipelines used to ship crude oil and then withheld use of these lines from its competitors. Rockefeller made secret arrangements with the railroads for special favors. Although the railroads were supposed to charge every oil company the same price, or rate, to ship refined oil to market, Rockefeller's arrangement with the railroads provided that they would charge his company a lower rate. Since the railroads wanted Rockefeller's business badly, they agreed to the arrangement. The Standard

Oil Company paid the going rate for shipping its oil, but then the railroads would return part of the payments. The money returned, which amounted to millions of dollars, was called a rebate. The use of the rebate allowed Standard Oil to charge less for its products than could its competitors. This was one of the main reasons Standard was able to drive rival companies out of business.

READ DIRECTIONS CAREFULLY. FORM CC

NAME:_____ TIME: FINISH_____
BEGIN_____

Directions for Part 2:

1) On the next page, is the same history selection you have just read. However, in this copy, every seventh word was left out of the paragraphs, and blank spaces were put where the words were taken out.

2) Your job will be to decide what word was left out of each space and to write that word in that space.

3) It will help you in taking the test if you remember these things:

   1) Write only one word in each blank. Print your response.

   2) Try to fill in every blank. Don't be afraid to guess.

   3) You may skip hard blanks and come back to them when you have finished.

   4) Spelling errors will not be marked wrong if we can tell what word you meant.

   5) Most of the blanks can be answered with ordinary words but a few will be

      numbers like. . . . . 3,427 or $12 or 1954
      contractions like . . . can't or weren't
      abbreviations like. . . Mrs. or U.S.A.
      parts of hyphenated words like . . . . . self in the word self-made

   6) If you have a question, raise your hand.

   7) Remember to put the time when you begin and finish on the top of this page.

   8) Turn in the completed activity to the person in charge who will then give you Part 3.

The establishment of the machine as a permanent fixture in American life made possible the beginnings of large business in this nation. There were many factors which contributed 1) _____ this. As one historian has said, "2) _____ invention of labor-saving machinery made 3) _____ production profitable, and the development 4) _____ transportation and communication made the distribution 5) _____. Gradually, smaller inventions, such as the 6) _____, adding machine, and many other appliances 7) _____ necessary features to the Age of 8) _____ Business."

These developments in industry led 9) _____ the creation not only of large 10) _____ but also of business combinations in 11) _____ wealthy owners of large concerns bought 12) _____ or otherwise acquired other companies and 13) _____ huge corporations. Often these businessmen became 14) _____ powerful that they controlled many different 15) _____ of one particular industry. Some cut 16) _____ and held back certain materials that 17) _____ companies needed to make their products 18) _____, in this way, drove many of 19) _____ rivals right out of business. These 20) _____ business combinations, or trusts as they 21) _____ called, became a great problem to 22) _____ nation during the Gilded Age.

One 23) _____ the wealthiest and most well-known 24) _____ all the industrial giants of the 25) _____ Age was John D. Rockefeller, who created the 26) _____ Oil Company. There were many reasons 27) _____ Rockefeller rose to a position of 28) _____ power. First of all, he had 29) _____ in the right place at the 30) _____ time. Oil was a new product 31) _____ was to become an essential part 32) _____ the Machine Age. By being one 33) _____ the first in this field and 34) _____ spending large sums of money to 35) _____ large refineries, he was able to 36) _____ lower prices than his competitors, and 37) _____ he began driving them out of 38) _____. Those he did not drive out 39) _____ business, he bought out. In a 40) _____ short period of time he had 41) _____ complete control of the oil industry.

42) _____ of the practices that Rockefeller and 43) _____ Standard Oil Company used in driving 44) _____ competitors out of business were highly 45) _____. Standard Oil gained control of almost 46) _____ of the pipelines used to ship 47) _____ oil and then withheld use of

48) _____ lines from its competitors. Rockefeller made 49) _____ arrangements with the railroads for special 50) _____. Although the railroads were supposed to 51) _____ every oil company the same price, 52) _____ rate, to ship refined oil to 53) _____, Rockefeller's arrangement with the railroads provided 54) _____ they would charge his company a 55) _____ rate. Since the railroads wanted Rockefeller's 56) _____ badly, they agreed to the arrangement. 57) _____ Standard Oil Company paid the going 58) _____ for shipping its oil, but then 59) _____ railroads would return part of the 60) _____. The money returned, which amounted to 61) _____ of dollars, was called a rebate. 62) _____ use of the rebate allowed Standard 63) _____ to charge less for its products 64) _____ could its competitors. This was one of the main reasons Standard was able to drive rival companies out of business.